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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,836	02/05/2004	F. William Hersman	09815/65553	5996
7590 05/04/2005 Devine, Millimet & Branch, P.A. 111 Amherst Street Manchester, NH 03101			EXAMINER THOMAS, BRANDI N	
			ART UNIT 2873	PAPER NUMBER

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/772,836	HERSMAN, F. WILLIAM	
	Examiner	Art Unit	
	Brandi N. Thomas	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/4/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 6/4/04. An initialed copy is attached to this Office Action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (4902888).

Regarding claims 1, 2 and 11, Kondo discloses, in figures 1-3, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, comprising: emitting a laser beam from optical fibers (24) (col. 8, lines 7-13); configuring the optical fibers (24) with a spatial cross-section in a shape that is one-half the shape of the desired cross-section (figure 3); splitting the laser beam emitted from the configured optical fibers (24) into a first component beam with a spatial cross-section and a second components beam with a spatial cross-section (col. 7, lines 49-53); circularly polarizing the component beam (col. 7, lines 46-49); focusing the component beams at a focal point (figure 2); inverting the spatial cross-section of one of the component beam (col. 7, lines 28-32) but does not specifically disclose a second

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component beam and combining the first and second component beams at or near the focal point so that they are aligned and contiguous or nearly contiguous. Wu et al. discloses, in figures 1 and 2, a second component beam the direction of polarization and combining the first and second component beams at or near the focal point so that they are aligned and contiguous or nearly contiguous (section 0039) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Kondo with the beam combiner of Wu et al. for the purpose of forming an output signal with combined polarization states (section 0037).

Regarding claim 3, Kondo discloses, in figures 1-3, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for splitting the laser beam comprises a beam-splitter cube (16) (col. 7, lines 49-53).

Regarding claim 4, Kondo discloses, in figures 1-3, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for polarizing the component beams comprises two quarter wave plates (14, faraday rotator similar affect and 20), positioned with a fast axis of either $+45^{\circ}$ or -45° relative to the vertical so as to achieve the desired direction of circular polarization (col. 7, lines 63-64) but does not specifically disclose a second component beam the direction of polarization. Wu et al. discloses, in figures 1 and 2, a second component beam (section 0039) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Kondo with the beam combiner of Wu et al. for the purpose of forming an output signal with combined polarization states (section 0037).

Regarding claim 5, Kondo discloses, in figures 1-3, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for focusing the component beam are two converging lenses (22 and 26) with common focal lengths (col. 7, lines 43 and 52-53) but does not specifically disclose a second component beam the direction of polarization. Wu et al. discloses, in figures 1 and 2, a second component beam (section 0039) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Kondo with the beam combiner of Wu et al. for the purpose of forming an output signal with combined polarization states (section 0037).

Regarding claim 6, Kondo discloses, in figures 1-3, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for inverting the spatial cross-section of one of the component beams is a mirror (48) (col. 7, lines 28-32) but does not specifically disclose a second component beam the direction of polarization. Wu et al. discloses, in figures 1 and 2, a second component beam (section 0039) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Kondo with the beam combiner of Wu et al. for the purpose of forming an output signal with combined polarization states (section 0037).

Regarding claim 7, Wu et al. discloses, in figure 1, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for combining the first and second component beams is a mirror (section 0069).

Regarding claim 8, Wu et al. discloses, in figure 5, a method for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, wherein the means for combining the first and second component beams is a prism (565) (section 0051).

Regarding claims 9, 10, and 12, Kondo discloses, in figures 1-3, a system for producing a polarized laser beam with minimum divergence and a desired spatial cross-section, comprising: optical fibers (24) emitting a laser beam configured with a spatial cross-section in a shape that is one-half the shape of the desired cross-section (col. 8, lines 7-13) (figure 3); a polarizing cube (16) for splitting the laser beam emitted into a first component beam and a second components beam (col. 7, lines 49-53); two quarter wave plates (14 and 20) positioned with a fast axis of either $+45^{\circ}$ or -45° relative to the vertical so as to achieve the desired direction of circular polarization (col. 7, lines 63-64) circularly polarizing the component beam (col. 7, lines 46-49); a first converging lens (22) for focusing the first component beam at a focal point (col. 7, line 43) and a second converging lens (26) with a common focal length with the first converging lens (22) for focusing the second component beam at a focal point (col. 7, lines 52-53); a mirror (48) for inverting the spatial cross-section of one of the component beam (col. 7, lines 28-32) but does not specifically disclose a second component beam and combining the first and second component beams at or near the focal point so that they are aligned and contiguous or nearly contiguous. Wu et al. discloses, in figures 1 and 2, a second component beam and combining the first and second component beams at or near the focal point so that they are aligned and contiguous or nearly contiguous (section 0039) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Kondo with the beam combiner of Wu et al. for the purpose of forming an output signal with combined polarization states (section 0037).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Ricky L. Mack
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PRIMARY EXAMINER